

REMARKS

Claims 1-47 are currently pending in the application. The Specification and claims 16, 42, and 45 have been amended with this response. Reconsideration of the application in light of the following remarks is respectfully requested.

I. OBJECTION TO THE SPECIFICATION

The Specification was objected to for several discrepancies. A replacement paragraph has been provided with this response for the paragraph beginning on page 12, line 4, wherein "the electrostatic chuck 100 of Fig. 1" has been corrected to read, "the electrostatic chuck 100 of Fig. 2".

A replacement paragraph has also been provided for the paragraph beginning on page 23, line 15, wherein "the second electrically conductive layer 145" on lines 18-19 has been corrected to read, "the second electrically conductive layer 165".

A replacement paragraph has further been provided with this response for the paragraph beginning on page 26, line 19, wherein references to lift pins 210 in Fig. 8 have been corrected to point to Fig. 11. Also, references made to the substrate 105 and electrostatic chuck 100 have been amended to point to Fig. 2, since the substrate 105 and electrostatic chuck 100 are not clearly illustrated in Fig. 11.

Accordingly, the specification is now believed to be in condition for allowance and withdrawal of the objection is respectfully requested.

II. OBJECTION TO CLAIM 16

Claim 16 has been objected to for being unclear. Claim 16 has been amended to correct a clerical error, wherein "plurality of" has been removed. Accordingly, claim 16 is now believed to be in condition for allowance and withdrawal of the objection is respectfully requested.

III. REJECTION OF CLAIMS 1-4, 6, 8, 9, 11-14, 16-18, 24, 25, 27, 28, 30, 32, AND 39-41 UNDER THE JUDICIALLY CREATED DOCTRINE OF OBVIOUSNESS-TYPE DOUBLE PATENTING

Claims 1-4, 6, 8, 9, 11-14, 16-18, 24, 25, 27, 28, 30, 32, and 39-41 were rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being obvious in view of U.S. Patent No. 6,946,403. While applicants respectfully disagree with the rejection, in order to facilitate an expeditious prosecution of the present application, a terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) is provided herein, thereby rendering the above issue moot. Accordingly, withdrawal of the rejection of claims 1-4, 6, 8, 9, 11-14, 16-18, 24, 25, 27, 28, 30, 32, and 39-41 is respectfully requested.

IV. REJECTION OF CLAIMS 1-3, 6, 16-17, 19, 21, 24, 27-30, 32, AND 40 UNDER 35 U.S.C. § 103(a)

Claims 1-3, 6, 16-17, 19, 21, 24, 27-30, 32, and 40 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Logan et al. (U.S. Patent No. 5,155,652) in view of Weldon et al. (U.S. Patent No. 6,414,834). Applicants traverse the rejection for at least the following reasons.

- i. **Logan et al. fail to teach or suggest a plurality of electrically insulative protrusions formed over the first electrically conductive layer, as recited in claim 1.***

Claim 1 of the present invention recites an electrostatic chuck comprising a semiconductor platform, wherein a first electrically conductive layer is formed thereover, and wherein a plurality of ***electrically insulative protrusions*** are formed over the first electrically conductive layer. Logan et al., on the other hand, form an electrostatic pattern 46 over a substrate, ***wherein the electrostatic pattern is comprised of an electrically conductive material*** (see, e.g., Logan et al., col. 2, lns. 64-66). While the electrostatic pattern of Logan et al. comprises alternating "strips", such strips are clearly

not electrically insulative, as recited in claim 1 of the present invention, but rather, the strips of Logan et al. are electrically conductive, wherein each strip is electrically energized, thus resulting in a capacitance therebetween which apparently is utilized for clamping a wafer to the chuck (see, e.g., Logan et al., col. 2, ln. 66 through col. 3, ln. 3). Contrary to the suggestion by the Examiner, such strips clearly cannot be considered the plurality of electrically insulative protrusions, as recited in claim 1 of the present invention.

- ii. Logan et al. fail to teach or suggest a plurality of electrically insulative protrusions which define a protrusion contact area with the substrate, and wherein the plurality of insulative protrusions further generally define a plurality of gaps therebetween, as recited in claim 1.**

The electrostatic chuck of claim 1 of the present invention not only comprises a plurality of insulative protrusions which are not taught by Logan et al., as discussed above, but the plurality of protrusions further define a plurality of gaps therebetween, and are operable to contact the substrate to be clamped, such as a semiconductor wafer, thus defining a protrusion contact area. Again, such a plurality of electrically insulative protrusions are neither taught nor suggested by Logan et al.

Unlike the plurality of insulative protrusions of the present invention, Logan et al. teach an ***insulative isolation layer that is placed over the electrically conductive electrostatic pattern layer*** (see, e.g., Logan et al., col. 2, lns. 25-27 and Figs. 1 and 3), thus appearing to provide a ***generally planar and contiguous surface*** for the wafer to reside on. The insulative isolation layer of Logan et al. appears to be pre-manufactured, wherein the generally planar plate is placed over the electrostatic pattern layer (e.g., the "strips" discussed above) during assembly of the electrostatic chuck. Such an isolation layer that is placed over the electrostatic pattern layer clearly ***does not define either the protrusion contact area or the plurality of gaps of the presently claimed invention, but rather, appears to provide a single, generally contiguous surface to which the wafer is to be clamped.***

iii. *Weldon et al. fail to remedy the deficiencies of Logan et al.*

As described above, Logan et al. fail to teach or suggest the plurality of protrusions as recited in claim 1 of the present invention. Weldon et al. also fail to teach or suggest such a feature, and thus, fail to remedy the deficiencies of the primary reference. Furthermore, since Weldon et al. are silent regarding the plurality of protrusions that are formed over the first electrically conductive layer (wherein the first electrically conductive layer is further formed over the semiconductor platform) as claimed in the present invention, the mere fact that Weldon et al. utilize a semiconductor material in the manufacture of their electrostatic chuck appears to be inconsequential.

Therefore, for at least the above reasons, claim 1 and dependent claims 2-4; 6; 8, 9, 11-14, 16-18, 24, 25, 27, 28, 30, 32, and 39-41 are believed to be patentable over the cited art, and withdrawal of the rejection is respectfully requested.

V. REJECTION OF CLAIMS 4-5, 7-15, 18, 20, 22, 23, 25, 26, 31, AND 33-39 UNDER 35 U.S.C. § 103(a)

Claims 4-5, 7-15, 18, 20, 22, 23, 25, 26, 31, and 33-39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Logan et al. (U.S. Patent No. 5,155,652) in view of one or more of Weldon et al. (U.S. Patent No. 6,414,834), Husain (U.S. Patent No. 5,880,922), Ma (U.S. Publication No. 2002/017059), Koltuniak et al. (U.S. Patent No. 3,566,959), Ehlert et al. (U.S. Patent No. 4,788,627), Nakajima (U.S. Patent No. 6,414,834), Mountsier et al. (U.S. Patent No. 5,810,933), Anderson et al. (U.S. Patent No. 5,583,736), Rossman et al. (U.S. Patent No. 6,077,357), as well as one of ordinary skill in the art.

As described above, Logan et al. fail to teach or suggest the plurality of electrically insulative protrusions formed over the first conductive layer (which is formed over the semiconductor platform) as recited in claim 1 of the present invention. None of the cited combinations of references remedy the deficiencies of the primary reference,

and thus, claims 4-5, 7-15, 18, 20, 22, 23, 25, 26, 31, and 33-39, which depend on claim 1, are believed to be patentable over the cited art. Accordingly, withdrawal of the rejection of claims 4-5, 7-15, 18, 20, 22, 23, 25, 26, 31, and 33-39 is respectfully requested.

VI. REJECTION OF CLAIMS 42-47 UNDER 35 U.S.C. § 103(a)

Claims 42-47 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Logan et al. (U.S. Patent No. 5,155,652) in view of Rossman et al. (U.S. Patent No. 6,077,357) and Mountsier et al. (U.S. Patent No. 5,810,933). Claims 42 and 45 have been amended, wherein claim 42 comprises placing the substrate on a clamping plate having **a plurality of electrically insulative protrusions extending from a first electrically conductive layer formed over a semiconductor platform**. Similar to the discussion with reference to claim 1 above, Logan et al. again fail to teach or suggest placing the substrate on a clamping plate as recited in claim 42 of the present invention, and neither Rossman et al. nor Mountsier et al. remedy the deficiencies of the primary reference.

Accordingly, applicants respectfully request withdrawal of the rejection of claims 42-47.

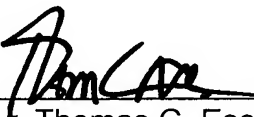
VII. CONCLUSION

For at least the above reasons, the claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, EATNP147US.

Respectfully submitted,
ESCHWEILER & ASSOCIATES, LLC

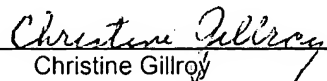
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CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: December 19, 2005


Christine Gillroy